

FISH & WILDLIFE CROSSINGS—Crossing Structures #1 CONCRETE CULVERTS

Concrete Box Culvert



Location: Rasmussen Creek Clallam County, Washington - State Route 112.

Why built: Culverts had been built on a steep slope - the water velocity was too high for most fish swimming upstream.

Suitable for: Fish and amphibians.

Effectiveness: The project added nearly 7/8ths of a mile of stream habitat - post-project surveys reported salmon, trout and other fish in upstream areas where they had not been before.

Pipe Culvert (before construction)



Box Culvert (after construction)



Photos by Washington Department of Fish and Wildlife - FHWA Web Page



Concrete Box Culvert Red Earth Underpass

Location: Banff National Park, Canada - Trans-Canada Highway

Size: 3.0 M. X 2.5 M.

Why built: To facilitate safe wildlife passage across highway.

Suitable for: Carnivores, ungulates, small mammals, fish, amphibians and reptiles.

Effectiveness: Black bear, cougar, coyote, and ungulates have used the underpass (11/96-6/00).

Bear Underpass

Location: Florida - State Road 46

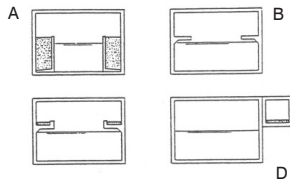
Size: 47' (14.3 M.) long, 24' (7.3 M.) wide and 8' (2.4M.) high.

Why built: Bears were using similarly designed panther crossings on Interstate 75. Placement of underpass locations were based on bear kill data along the road.

Suitable for: Carnivores, ungulates, small mammals, fish, amphibians and reptiles.



Photo by Steve Homan - FHWA Web Page



Possibilities for integrating a wildlife passage with large, newly installed culverts:

- A. Over-dimensioning in combination with artificial soft banks for fauna.
- B. Integrated concrete fauna ledges.
- C. Integrated concrete fauna ledges with raised edges and soil cover.
- D. Creation of wildlife tunnel parallel to culvert.

Source: Habitat Fragmentation and Infrastructure in the Netherlands and Europe, In: Proceedings of the International Conference on Wildlife Ecology and Transportation.



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Photo by Washington Department of Fish and Wildlife - FHWA Web Page

Prefabricated Concrete Arch Culverts

Size: Up to 10' high and 24' wide.

Suitable for: Carnivores, ungulates, small mammals, fish, amphibians and reptiles.



US 93 DESIGN DISCUSSIONS

Project Committee:

Montana Department of Transportation

Federal Highway Administration

The Confederated Salish & Kootenai Tribes of the Flathead Nation

Prime Consultant: Skillings-Connolly, Inc. - Consulting Engineers

Evero to Polson, Montana

December 20, 2000



Architects & Landscape Architects

In order to facilitate the safe movement of wildlife across the landscape, wildlife crossing structures are necessary in many locations along US 93. This graphic looks at how wildlife crossings have been used successful for other projects across North America. In particular, this sheet depicts concrete box culverts, and prefabricated arch culverts. By examining different types of crossing structures, we can determine which types of crossings are best suited for US 93.